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Attorney's Docket No.: 09010-029005

REMARKS

Status of the Claims

Claims 18 and 41-71 are pending. In the present Response, claims 18, 41-43, 51, 55, 56-59, and 67 are amended; and claims 72-79 are added. Claims 18 and 41-79 are presented for consideration.

Pursuant to the Office Action, claims 18 and 41-71 are rejected under 35 U.S.C. §112, first paragraph. Claims 18 and 41-71 are rejected under 35 U.S.C. §112, second paragraph. Claims 18 and 41-71 are rejected under the judicially created doctrine of double patenting. Applicants respectfully traverse all outstanding objections to and rejections of the claims.

Support for the Claim Amendments

Claims 18, 41-43, 51, 55, 56-59, and 67 have been amended to more particularly describe the claimed invention. Applicants submit that the scope of the claims is not narrower from that which was originally sought to be claimed. For example, the Examiner has objected to the use of both "foodstuff" and "animal feed" in the pending claims. Applicants have amended the pending claims to be directed to foodstuff and added new claims directed to animal feed. Support can be found at least at page 5, lines 3-5, of the specification, it is noted that there is a need for "improved nutritional offerings of phytate-containing foodstuffs for consumption by humans and farmed animals." In general, the amendments are supported in the specification and claims as originally filed. Accordingly, Applicants submit that no new matter is introduced by the instant Response.

Objections to the Claims

Claims 41-43, 47-49, 55, 57-59, 63-65, are objected to for allegedly being unclear. Applicants note with appreciation the suggested language the Examiner believes will clarify the claims. Applicants have amended the claims as suggested, thereby, overcoming the objections to

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the claims. Applicants further note that the scope of claims 18 and 41-71 directed to methods of producing animal feed, is not narrowed by the instant amendments.

Issues under 35 U.S.C. §112, second paragraph

Claims 18 and 41-71 are rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claims 18 and 56 (as well as claims 41-55 and 57-71 which depend thereon) are alleged to be indefinite in the recitation of "providing a plant cell, plant part or plant that contains a recombinant expression system." The Patent Office alleges that a recombinant expression system comprises both a vector and a host cell. It is unclear to the Patent Office how a plant cell can comprise a host cell. Applicants have amended claims 18 and 56 to more particularly describe the invention. Applicants have also amended claims 41 and 57 to encompass methods utilizing a recombinant vector and a host cell that has been incorporated into a plant part or plant. Support for such claims can be found in claim 18 as originally filed.

Claims 18 and 56 (as well as claims 41-55 and 57-71 which depend thereon) are alleged to be indefinite in the recitation of "system comprising a phytase-encoding nucleic acid sequence having a nucleotide sequence." Applicants have amended claims 18 and 56 to clarify the Patent Office's confusion.

Claims 18 and 56 (as well as claims 41-55 and 57-71 which depend thereon) are alleged to be indefinite in the recitation of "nucleotide sequence is expressed as a polypeptide," as it is alleged that sequences are just graphical representations of the order of the nucleotides/amino acids. Applicants have amended claims 18 and 56 as suggested by the Examiner.

Claims 51 and 67 are alleged to be indefinite in the recitation of "plant comprises seeds containing phytases to be used," as it is alleged that it is unclear if the phytase being referred to is the phytase encoded by the polynucleotide of SEQ ID NO:1. Applicants have amended claims 51 and 67 to describe the claimed invention with more particularity and clarity.

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Claims 18 and 41-71 have been amended to overcome the rejections based upon 35 U.S.C. §112, second paragraph. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

Issues under 35 U.S.C. §112, first paragraph

Claims 51 and 67 are rejected under 35 U.S.C. §112, first paragraph, for allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Applicants have amended claims 51 and 67 to describe the claimed invention with more particularity and clarity. Applicants submit that amended claims 51 and 67 are patentable as they are disclosed in the specification and enabled by the specification, as acknowledged by the Patent Office on page 5, line 22, to page 6, line 1, and page 6, lines 12-14. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection based upon 35 U.S.C. §112, first paragraph.

Issues regarding Double Patenting

Claims 18 and 41-71 are rejected under the judicially created doctrine of obviousness-type double patenting for allegedly being unpatentable over claims 1-5 of U.S. Patent No. 6,183,740 (the '740 patent). Claims 18 and 41-71 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claim 13 of copending Application No. 09/777,566 and over claims 1-5 and 18 of copending Application No. 09/866,379.

With respect to the allegation that claims 1-5 of the '740 patent are not patentably distinct from the instant claims, Applicants respectfully disagree. Applicants direct the Patent Office to the Office Communication mailed on September 21, 2001. In that communication, the Patent Office stated that there were ten distinct inventions, each from the other, and required the election of a single group. Applicants elected Group IV in the instant application with traverse in Paper No. 7. The Patent Office responded in an Office Action mailed March 27, 2002, on

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page 2, line 19, to page 3, line 5, that the search of Groups I, II, and IV were not co-extensive, made the requirement final, and withdrew the non-elected claims. Accordingly, Applicants submit that claims 1-5 of the '740 patent are drawn to an invention that is distinct from the currently pending claims, and, therefore, no Terminal Disclaimer is needed. As for the provisional rejections, the Patent Office has noted that the allegedly conflicting claims have not in fact been patented. Accordingly, Applicants request that this issue be held in abeyance, at least until the claims have been found to be in condition for allowance.

Applicants acknowledge the Patent Office's note that parent Application No. 08/910,798, and copending applications 10/156,660 and 10/034,985 are not available to the Examiner at this time so no determination has been made as to whether claims in those applications would raise double patenting issues in the instant application.

CONCLUSION

Applicants request that the Examiner reconsider the application and claims in light of the foregoing reasons and amendments and respectfully submit that the claims are in condition for allowance.

If, in the Examiner's opinion, a telephonic interview would expedite the favorable prosecution of the present application, the undersigned attorney would welcome the opportunity to discuss any outstanding issues and to work with the Examiner toward placing the application in condition for allowance.


Attached is a marked-up version of the changes being made by the current amendment.

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Applicants believe that no additional fees are necessitated by the present Response. However, in the event any such fees are due, the Commissioner is hereby authorized to charge any such fees to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 1/13/2003

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Version with markings to show changes made

In the claims:

Claims 18, 41-43, 47-49, 51, 55, 56-59, 63-65, and 67 has been amended as follows:

18. (Thrice Amended) A method to produce [an animal feed] a foodstuff containing a microbial phytase comprising:

a) providing a plant cell, plant part or plant that contains a recombinant expression [system] vector comprising a phytase-encoding nucleic acid [sequence] having a nucleotide sequence selected from

i) SEQ ID NO: 1, and

ii) SEQ ID NO: 1, wherein T can also be U;

b) culturing the plant cell, plant part or plant under conditions wherein said [nucleotide] nucleic acid [sequence] is expressed as a polypeptide; and

c) converting said plant cells, plant parts or plants into a composition suitable for [animal feed] foodstuff, wherein the [animal feed] foodstuff contains phytate and the phytase.

41. (Amended) The method of claim 18, wherein the recombinant expression [system] vector comprising [comprises a vector containing] the nucleic acid [sequence] encoding said phytase is within a host cell.

42. (Amended) The method of claim 18, wherein said [nucleotide sequence] phytase-encoding nucleic acid is [preceded by a polynucleotide sequence encoding a signal peptide] operably linked to a polynucleotide encoding a signal peptide [said nucleotide sequence].

43. (Amended) The method of claim 41, wherein the nucleic acid [sequence] is operably linked to a transcription control sequence operable in said plant cells, plant parts or plants.

47. (Amended) The method of claim 46, wherein the liberation occurs after the ingestion of said foodstuff by a recipient organism.

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48. (Amended) The method of claim 46, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs in part prior to and in part after the ingestion of said foodstuff by a recipient organism.

49. (Amended) The method of claim 46, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs prior to the ingestion of said foodstuff by a recipient organism.

51. (Amended) The method of claim 18, wherein the plant comprises seeds containing the phytase encoded by a nucleic acid having the nucleotide sequence as set forth in SEQ ID NO:1 to be used to catalyze phytate-hydrolyzing reactions.

55. (Amended) The method of claim 18, wherein the plant [cells] cells, plant part, or plant is of a monocotyledonous species.

56. (Amended) A method to produce [an animal feed] a foodstuff containing a microbial phytase comprising:

a) providing a plant cell, plant part or plant that contains a recombinant expression [system] vector comprising a phytase-encoding nucleic acid [sequence] having a nucleotide sequence selected from

i) a sequence encoding a polypeptide sequence as set forth in SEQ ID NO:2
and

ii) a [the] sequence encoding the polypeptide sequence as set forth in SEQ ID NO:2, wherein T can also be U;

b) culturing the plant cell, plant part or plant under conditions wherein said [nucleotide sequence] nucleic acid is expressed; and

c) converting said plant cells, plant parts or plants into a composition suitable for [animal feed] foodstuff, wherein the [animal feed] foodstuff contains phytate and the phytase.

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57. (Amended) The method of claim 56, wherein the recombinant expression [system] vector comprising [comprises a vector containing] the nucleic acid [sequence] encoding said phytase is within a host cell.

58. (Amended) The method of claim 56, wherein said [nucleotide sequence] phytase-encoding nucleic acid is [preceded by a polynucleotide sequence encoding a signal peptide] operably linked to [said nucleotide sequence] a polynucleotide encoding a signal peptide.

59. (Amended) The method of claim 57, wherein the nucleic acid [sequence] is operably linked to a transcription control sequence operable in said plant cells, plant parts or plants.

63. (Amended) The method of claim 62, wherein the liberation occurs after the ingestion of said foodstuff by a recipient organism.

64. (Amended) The method of claim 62, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs in part prior to and in part after the ingestion of said foodstuff by a recipient organism.

65. (Amended) The method of claim 62, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs prior to the ingestion of said foodstuff by a recipient organism.

67. (Amended) The method of claim 56, wherein the plant comprises seeds containing the phytase encoded by a nucleic acid having a sequence as set forth in SEQ ID NO:1 to be used to catalyze phytate-hydrolyzing reactions.